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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: RYHANEN et al.

SERIAL NO.: 09/783,059 EXAMINER:

FILING DATE: 2/14/01 ART UNIT:

TITLE: A MICROMECHANICAL TUNABLE CAPACITOR AND AN INTEGRATED TUNABLE RESONATOR

ATTORNEY DOCKET NO.: 297-010113-US(PAR)

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

The following information is being disclosed to the Patent and Trademark Office as information that may be material to the examination of the above-identified patent application.

This Information Disclosure Statement is being filed before receipt of a first Office Action on the above-identified patent application. Thus, a certification under 37 CFR 1.97 (e) or fee under 37 CFR 1.17 (p) is not required for the information herein to be considered.

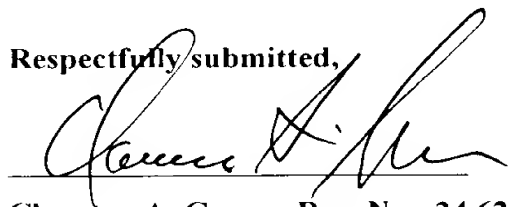
The above-identified patent application claims priority to Finnish Patent Application No. 20000339 filed 16 February 2000, and has a corresponding PCT International Application No. PCT/FI 01/00152 filed 16 February 2001. Applicants' attorney encloses a copy of a PCT International Search Report issued on the corresponding PCT International Application No. PCT/FI 01/00152. The Search Report cited United States Patent Nos.: 5,166,646; 5,526,172; PCT International Publication No. WO 00/42705; European Patent Application No. EP 0725408; "Development of a Wide Tuning Range MEMS

Tunable Capacitor for Wireless Communication Systems", Zou et al., IEEE 2000, pages 17.2.1-17.2.4; "A Micromachined, Single-Crystal Silicon, Tunable Resonator", Yao et al., Micromach. Microeng., 1996, pp.257-264 and Japanese Patent document No. JP 9082569, English translation of the Abstract attached.

Applicant's attorney also encloses copies of United States Patent Nos.: 5,531,128; 5,561,523, 5,646,729; 5,679,902; 5,818,586; "Micromachined Electro-Mechanically Tunable Capacitors and Their Applications to RF IC's", Dec et al., IEEE Transactions on Microwave Theory and Techniques, Vol. 46, No. 12, 1998, pp. 2587-2596; "RF MEMs Variable Capacitors for Tunable Filters", Goldsmith et al., Inc. Int J RF and Microwave CEA 9, John Wiley & Sons, 1999, pp. 362-374; "Characteristics of Micromachined Switches at Microwave Frequencies", Goldsmith et al., Dig. IEEE MTT-S, 1996, pp. 1141-1144; "Micromachined Low-Loss Microwave Switches", Yao et al., IEEE Journal of Microelectromechanical Systems, Vol. 8, No. 2, 1999, pp. 129-134; "A Micromachined Variable Capacitor for Monolithic Low-Noise VCOs", Young et al., Solid-State Sensors and Actuators Workshop, 1996, pp. 86-89; all of which were cited in the specification for the above-identified application.

Copies of the PCT International Search Report and the cited references are enclosed together with PTO-Form 1449.

Respectfully submitted,



11 June 01

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CERTIFICATE OF MAILING

I hereby certify that the attached Information Disclosure Statement, PCT International Search Report, PTO-Form 1449 and references are being deposited with the United States Postal Service as first class mail on the date shown below in an envelope addressed to: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

6/11/01
Date

Deborah J. Clark
Name of Person Making Deposit